

Amendments to the Claims

1-11. (Canceled)

12. (Previously Presented) An apparatus for use in collecting airborne particles comprising:

a collection vessel in which airborne particles are collected for analysis, the collection vessel comprising a microcentrifuge tube having an open end that is orthogonal to a line extending longitudinally with respect to the tube;

an air-inlet conduit for conducting air into the collection vessel, the air-inlet conduit extending at an angle with respect to a plane that is parallel to the open end, the air-inlet conduit being non-orthogonal and non-parallel to said plane; and

an air-outlet conduit for conducting air out of the collection vessel;

wherein the air-inlet conduit and the air-outlet conduit are situated to cause air flowing through the collection vessel to create a vortex, thereby causing airborne particles to separate from the air flowing through the collection vessel.

13. (Original) The apparatus of claim 12 wherein:

the collection vessel is a first collection vessel, the air-inlet conduit comprises a first air-inlet conduit, and the air-outlet conduit comprises a first air-outlet conduit; and

the apparatus further comprises:

a second collection vessel;

a second air-inlet conduit in fluid communication with the first air-outlet conduit so that air flowing through the first air-outlet conduit is conducted into the second collection vessel through the second air-inlet conduit, the second air-inlet conduit being non-orthogonal to a line extending longitudinally with respect to the second collection vessel; and

a second air-outlet conduit for conducting air out of the second collection vessel;

wherein the second air-inlet conduit and the second air-outlet conduit are situated to cause air flowing through the second collection vessel to create a vortex, thereby

causing airborne particles to separate from the air flowing through the second collection vessel.

14. (Original) The apparatus of claim 13, wherein the first collection vessel is supported in the same orientation as the second collection vessel.

15. (Original) The apparatus of claim 12, further comprising a vacuum source fluidly connectable to the air-outlet conduit to draw air through the collection vessel.

16. (Original) The apparatus of claim 12, wherein:
the collection vessel has an open end;
the air-inlet conduit conducts air to flow into the collection vessel through the open end;
and
the air-outlet conduit conducts air to flow outwardly from the collection vessel through the open end.

17. (Original) The apparatus of claim 12, further comprising an air-flow member adapted to be removably coupled the collection vessel, wherein the air-inlet conduit and the air-outlet conduit are passageways defined in the air-flow member.

18. (Original) The apparatus of claim 17, wherein the air-outlet conduit extends into the collection vessel through an open end thereof.

19. (Original) The apparatus of claim 13, further comprising an air-flow member adapted to be removably coupled the first and second collection vessels, wherein the first and second air-inlet conduits and the first and second air-outlet conduits are passageways defined in the air-flow member.

20. (Original) The apparatus of claim 12, wherein the air flow in the collection vessel is a reverse-flow cyclone.

21. (Original) The apparatus of claim 12 having a 50% cut-off diameter of 2 microns.

22-33. (Canceled)

34. (Previously Presented) A method for collecting airborne particles for analysis, the method comprising:

flowing air through the open end of a microcentrifuge tube along a flow path in a direction that extends generally tangentially with respect to an inner surface of the microcentrifuge tube, the open end being orthogonal to a line extending longitudinally with respect to the tube, the flow path being non-orthogonal and non-parallel to a plane defined by the open end, wherein the air flowing through the microcentrifuge tube establishes a cyclone; and separating airborne particles from the air flowing through the microcentrifuge tube.

35. (Previously Presented) The method of claim 34, wherein the air flowing through the microcentrifuge tube establishes a reverse-flow cyclone.

36. (Previously Presented) The method of claim 34, wherein the air flowing into the microcentrifuge tube is conducted through an inlet conduit of an air-flow fitting coupled to the microcentrifuge tube, and wherein air flowing out of the microcentrifuge tube is conducted through an outlet conduit of the air-flow fitting.

37. (Previously Presented) The method of claim 34, wherein air flowing outwardly from the microcentrifuge tube is conducted into a secondary collection vessel to further separate airborne particles from the air flow.

38-39. (Canceled)